



# UNITED STATES PATENT AND TRADEMARK OFFICE

1A  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,444	05/09/2002	Karsten Meyer-Grafe	(H) 01PH0389USP	1549

7590 07/13/2005

M Robert Kestenbaum  
11011 Bermuda Dunes NE  
Albuquerque, NM 87111

EXAMINER

CONTINO, PAUL F

ART UNIT	PAPER NUMBER
----------	--------------

2114

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/009,444

Applicant(s)

MEYER-GRAFE ET AL.

Examiner

Paul Contino

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, see page 7 under Drawings Specification, filed May 12, 2005, with respect to the objections to the Specification, Abstract, and Drawings have been fully considered and are persuasive. The objections of May 12, 2005 have been withdrawn.
2. Applicant's arguments, see page 7 under Claim Objections, filed May 12, 2005, with respect to the objections of claims 4-18 and rejections of claims 16 and 17 have been fully considered and are persuasive. The claim objections and rejections of May 12, 2005 have been withdrawn.
3. Applicant's arguments filed May 12, 2005, have been fully considered but they are not persuasive.
4. Examiner respectfully disagrees with Applicant regarding the 35 USC 102(b) rejection of claims 1-4, 6-7, 9, 12-21, and 23 under Eastvold et al. (U.S. Patent No. 5,745,268).

With respect to the Applicant's arguments on page 8 in the second paragraph, Examiner interprets the system monitor 16 is in fact *part* of the ring shaped network as depicted in Figure 1. Further, because Eastvold et al. discloses that master DTU 34 and system monitor 16 may be

Art Unit: 2114

combined into one unit (see column 9 lines 33-37), the Examiner interprets the combined unit to now be directly within the ring communications network.

With respect to the Applicant's arguments on page 8 in the third paragraph, Examiner finds no limitation within claim 1 that discloses a *changing* of state. Examiner interprets *initiated* in the context of claim 1 as creating a safe state of the output unit. Because the erroneous data discovered during the CRC check is discarded, a safe state has now been "initiated" (see column 13 lines 32-57 and column 15 lines 35-39). There is no prior or later language within claim 1 that discusses a transition from a state to a safe state. The Examiner would like to extend this response to the Applicant's arguments offered pertaining to claim 21 as disclosed on page 12 in the second paragraph.

With respect to the Applicant's arguments on page 8 in the fourth paragraph, Examiner interprets the system monitor 16 as a control unit and master DTU 34 as a peripheral monitoring unit. The combination of the two still contains a peripheral monitoring unit in the form of necessary circuitry to perform the functions of DTU 34 (see column 9 lines 33-37). There is no limitation within the claims that states the control unit and the peripheral monitoring unit are two physically separate entities. The Examiner would like to extend this response to the Applicant's arguments offered pertaining to claim 19 as disclosed on page 12 in the first paragraph.

With respect to the Applicant's arguments on page 10 in paragraph four regarding claim 3, Examiner interprets the data sent from the master DTU 34, which may be interpreted as a

Art Unit: 2114

safety-related unit, around the ring and then receiving the data to complete the loop as reading back the data (see column 5 lines 28-31).

With respect to the Applicant's arguments on page 10 in paragraph five regarding claim 4, Examiner interprets the contents of the buffer of a peripheral safety-unit DTU 12 being read back to peripheral monitoring unit master DTU 34. There is no limitation within claim 4 stating that the bus unit is a component of the peripheral safety-related unit. Examiner is unsure of how the last paragraph of page 10 is connected with claim 4.

With respect to the Applicant's arguments on page 11 in the fourth paragraph, the Examiner interprets the lack of further processing and dropping of packets (see column 15 lines 38-39) as prevention of further processing of the received "agreed" invalid data packets by the safety-related unit.

With respect to the Applicant's arguments on page 11 in the fifth paragraph, the Examiner interprets the sample control module (SCM) as inherently handling control functions, as its name implies. There is no indication in the limitations of claim 14 that the control functions must be similar to those handled by, for example, a system monitor box.

Further evidence and explanation of Examiner's interpretation of the claims and application of prior art is given in the claim rejections to follow.

\* \* \*

5. Examiner respectfully disagrees with Applicant regarding the 35 USC 103(a) rejection of claim 22 under Eastvold et al. in view of Dawson (U.S. Patent No. 5,390,188).

With respect to Applicant's arguments on page 9 in the last paragraph and the first two paragraphs on page 10, Examiner interprets the line 310 of bus unit 340 as forwarding output data to an input of an other bus unit 350, as disclosed by Dawson. Figure 10 depicts redundant input channels 310 into 320 and 250 in order to provide output data.

Further evidence and explanation of Examiner's interpretation of the claim and application of prior art is given in the claim rejections to follow.

\* \* \*

6. Examiner respectfully disagrees with Applicant regarding the 35 USC 103(a) rejection of claims 8 and 10 under Eastvold et al. in view of Cawley (U.S. Patent No. 5,361,334).

With respect to Applicant's arguments on page 11 in the second paragraph, Examiner interprets the entirety of the packet, including the added BadPacket, as output data. The output data has been altered and therefor has been manipulated.

With respect to Applicant's arguments on page 11 in the third paragraph, Examiner interprets the agreeing, overwriting, and preventing associated with a data in an alternate manner than that of Applicant. Cawley discloses a transmitting and a receiving router and their associated processes (see lines 3-21). The transmitting router sends a data and retains the data in its FIFO until a response from the receiving router is received. The data in the transmitting router is assumed to be correct at all times. Once the data is received by the receiving router, a CRC check is undertaken. If the data, which is inherently stored on the receiving router in a particular buffer memory location, and is determined to have been corrupted as a result of the transfer, BadPacket is appended to the end of the packet. This signals the receiving router that it must notify the transmitting router it is in need of retransmission of the data. Because the buffer pointer in the receiving router is set to the beginning of the received data packet, it is implied that upon retransmission of the packet again by the transmitting router, the retransmitted packet will be stored starting at that spot in the buffer memory location. Therefor, the Examiner interprets that upon retransmission of a packet, without errors during the retransmission, will overwrite the corrupt data, and therefor cause agreement for outputting of the data by the receiving router to a next router in the ring network. The specific use of the language "overwrite" in column 9 lines 13 and 18 refer to the overwriting of data in the transmitting router, not the receiving router.

Further evidence and explanation of Examiner's interpretation of the claim and application of prior art is given in the claim rejections to follow.

### *Claim Objections*

7. Claim 22 is objected to because of the following informalities: Line 3 states “the output data” and “the input section”, and line 8 states “the temporarily stored data”. There is insufficient antecedent basis for these limitations in the claim. Examiner interprets “the output data” as being an inherent part of a bus unit; “the input section” of the other bus unit as being the only input section for the other bus unit; and “the temporarily stored data” as being the output data stored as disclosed in the buffer in line 7. Appropriate correction is required.

8. Claim 10 is objected to because of the following informalities: Lines 1-2 state “the agreement”. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

9. Claim 24 is objected to because of the following informalities: Claim 24 has been currently amended to include dependence only to *claim 22*, rather than retaining the original claim’s dependence on *claims 23 or 24*. The Applicant has failed to provide the text “Currently Amended” preceding the claim limitations (see 37 CFR 1.121(c)).

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites the limitation "the control process" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-4, 6-7, 9, 12-21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Eastvold et al. (U.S. Patent No. 5,745,268).

As in claim 1, Eastvold et al. discloses a system for protected data transmission in ring-shaped bus systems, comprising:

a control unit which sends output data and checking signals for a control process to peripheral units (Fig. 1 #16; column 9 lines 40-41; column 17 line 46),

a peripheral monitoring unit which has a first transfer unit for monitoring the transmitted data and a second transfer unit for monitoring data to be read back into the control unit (Fig. 1 #34; column 5 lines 20-30; column 9 lines 11-14; column 15 lines 29-44, which discloses monitoring of data for DTU 12, where it is implied that master DTU 34 is functionally equivalent to DTU 12. Examiner notes that the master DTU 34 and monitoring unit 16 in combination as disclosed in column 9 lines 33-37 may be interpreted as both a “control unit” and a “peripheral monitoring unit”), and

at least one peripheral safety-related unit (Fig. 1 #12 and 34) for receiving or transmitting safety-related data, in which data are temporarily stored for output (temporary storage is inherent in order to “monitor” the data; column 15 lines 64-67), which has a checking logic (Fig. 6 #44 and #64) for monitoring the temporarily stored data and an output unit for outputting the temporarily stored data (column 5 lines 59 through column 7 line 55; column 9 lines 40-52),

the temporarily stored data being monitored by the checking logic in such a manner that, in the case of a fault, a safe state of the output unit for the control process is initiated (column 13 lines 32-57; column 15 lines 35-39, where the dropping of invalid data packets [fault] ensure a “safe state of the output unit for the control process” because corrupt data will not be continued through the ring),

the first transfer unit monitoring the data sent out by the control unit, in such a manner that, in the case of a fault, release data for the peripheral safety-related unit are suppressed or deleted so that the faulty data do not reach the control process, particularly data transmission sequences, wherein the input data of the peripheral safety-related unit and its temporarily stored data are read back via the second transfer unit (Fig. 1 #34; column 5 lines 20-30; column 9 lines

11-14; column 15 lines 29-44. Because master DTU 34 functions as any DTU 12, faulty data would be deleted as disclosed in column 15 lines 35-39).

As in claim 2, Eastvold et al. discloses the temporarily stored data and the input data of the peripheral safety-related unit are provided to the peripheral monitoring unit (column 5 lines 27-32).

As in claim 3, Eastvold et al. discloses the peripheral safety-related unit reads back the temporarily stored data via a bus unit (Fig. 6 #54; column 5 lines 27-32; column 6 lines 55-56).

As in claim 4, Eastvold et al. discloses the peripheral safety unit has a buffer (column 14 lines 17-19, where it is implied data packet 120 is being stored before being sent) which is read back by a bus unit (Fig. 6 #54; column 5 lines 27-32; column 6 lines 55-56) and is thus checked by the peripheral monitoring unit even before release to the control process (column 15 lines 35-39), particularly of data transmitted via the bus, via the output logic (Fig. 6 PAL 20RA10) with the output signal (data being sent).

As in claim 6, Eastvold et al. discloses the checking logic decides whether the data stored in the buffer are output via the output logic (column 13 lines 48-53).

As in claim 7, Eastvold et al. discloses the checking logic releases or deletes the temporarily stored data (column 13 lines 48-57; column 15 lines 32-39; it is interpreted that the

hardware and software determining the validity of the data is done by the microprocessor 44 and/or the FPGA 64 [checking logic]).

As in claim 9, Eastvold et al. discloses the peripheral monitoring unit overwrites data of the SPC (SPC as described in Applicant's specification is interpreted as the "control unit." column 11 lines 54-63, where the revision information implies overwriting of data. The combination of the master DTU 34 and monitoring unit 16 as disclosed in column 9 lines 33-37 interpreted as both a "control unit" and a "peripheral monitoring unit" allows for the overwriting of "data of the SPC" by the "peripheral monitoring unit").

As in claim 12, Eastvold et al. discloses the peripheral safety-related unit only becomes active if it has received an agreement for the data of the output unit via the checking unit (column 15 lines 35-39, where the dropping of the invalid [disagreeing] packets prevents further processing [activity]).

As in claim 13, Eastvold et al. discloses the peripheral units themselves can perform logic operations and thus a higher process speed is achieved in the overall combined operation (column 5 line 67, where it is inherent to a microprocessor to perform logic operations).

As in claim 14, Eastvold et al. discloses the peripheral monitoring unit itself handles control functions and thus a combined operation with a safety control unit is produced (column 6 lines 1-2, sample control module).

As in claim 15, Eastvold et al. discloses the peripheral safety-related unit manages with standard non-safety-related modules for the bus traffic and does not need any safety-related modules (Fig. 2; column 4 lines 38-44).

As in claim 16, Eastvold et al. discloses the system is operable in standard bus systems and is capable of operating without additional installation of further bus systems or serial components (column 4 lines 44-50).

As in claim 17, Eastvold et al. discloses the system is installable subsequently by adding the peripheral monitoring unit and exchanging normal peripheral units for peripheral safety-related units (column 5 lines 2-11 and column 17 lines 37-45, where the disclosed configuration implies the ability to exchange units of any type without sacrificing functionality).

As in claim 18, Eastvold et al. discloses the safety function of the system can also be subsequently expanded by adding hardware elements or software modules (column 4 line 64 through column 5 line 11 and column 17 lines 37-45).

As in claim 19, Eastvold et al. discloses a peripheral monitoring unit (Fig. 1 #34; column 5 lines 20-30; column 9 lines 11-14; column 15 lines 29-44, which discloses monitoring of data for DTU 12, where it is implied that master DTU 34 is functionally equivalent to DTU 12. Examiner notes that the master DTU 34 and monitoring unit 16 in combination as disclosed in

Art Unit: 2114

column 9 lines 33-37 may be interpreted as both a “control unit” and a “peripheral monitoring unit”.) checks the data sent out by a control unit (Fig. 1 #16; column 9 lines 40-41; column 17 line 46) and examines them for faults and in the case of a fault suppresses or deletes release data for a peripheral safety-related unit so that a fault cannot reach the control process, particularly not data transmission sequences (Fig. 1 #34; column 5 lines 20-30; column 9 lines 11-14; column 15 lines 29-44. Because master DTU 34 functions as any DTU 12, faulty data would be deleted as disclosed in column 15 lines 35-39).

As in claim 20, Eastvold et al. discloses temporarily stored data (column 15 lines 66-67) of the peripheral safety-related unit are read via a bus unit (Fig. 6 #54; column 15 lines 62-63) and are monitored and detected by a checking logic (column 13 lines 48-57; column 15 lines 32-39; it is interpreted that the hardware and software determining the validity of the data is done by the microprocessor 44 and/or the FPGA 64 [checking logic]).

As in claim 21, Eastvold et al. discloses in which a safe state of data transmission, particularly of the output unit, is initiated by the checking logic (column 13 lines 32-57; column 15 lines 35-39, where the dropping of invalid data packets [fault] ensure a “safe state of data transmission” because corrupt data will not be continued through the ring).

As in claim 23, Eastvold discloses the checking logic releases or deletes the temporarily stored data (column 13 lines 48-57; column 15 lines 32-39).

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 5 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eastvold et al. in view of Dawson (U.S. Patent No. 5,390,188).

As in claim 5, Eastvold et al. teaches of a peripheral safety device. However, Eastvold et al. fails to teach the peripheral safety-related unit comprises a further bus unit so that the peripheral safety-related unit has redundant input channels and thus redundantly monitors the connected control process and can detect a fault. Dawson teaches of a unit with two input channels for fetching data redundantly in order to detect a fault (Fig. 10 #212 and 312; column 21 line 44 through column 22 line 10).

It would have been obvious to a person skilled in the art at the time the invention was made to have included redundant inputs for fault detection as disclosed by Dawson in the invention of Eastvold et al. This would have been obvious because including a reference (column 21 line 60) for comparison with incoming data enhances fault detection.

As in claim 22, Eastvold et al. discloses a peripheral safety-related unit in a system for protected data transmission in ring-shaped bus systems comprising

a buffer in which the output data are stored before their release (column 14 lines 17-19, where it is implied data packet 120 is being stored before being sent),

an output logic via which the temporarily stored data are output (Fig. 6 PAL 20RA10),

a checking logic which decides whether the data stored in the buffer are output via the output logic (column 13 lines 48-53), and

output data of a peripheral monitoring unit for read-back (Fig. 1 #34; column 5 lines 20-30; column 9 lines 11-14).

However, Eastvold et al. fails to teach of redundant input channels. Dawson teaches of two bus units (Fig. 10 #340 and 350), to forward the output data of a bus unit (#340 which acts as a buffer) also to the input section of the other bus unit (#350) in order to be able to fetch information from the control process via redundant input channels (Fig. 10 #310).

It would have been obvious to a person skilled in the art at the time the invention was made to have included redundant input channels for fault detection as disclosed by Dawson in the invention of Eastvold et al. This would have been obvious because including a reference (column 21 line 60) for comparison with incoming data enhances fault detection.

\* \* \*

13. Claims 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eastvold et al. in view of Cawley (U.S. Patent No. 5,361,334).

As in claim 8, Eastvold et al. teaches the peripheral monitoring unit with the first transfer unit is capable of deleting the data for the peripheral safety-related unit. However, Eastvold et al. fails to teach of manipulating the data. Cawley teaches of manipulating the data (column 9 lines 7-10).

It would have been obvious to a person skilled in the art at the time the invention was made to have included manipulation of data as taught by Cawley via a similar CRC checking method (column 8 lines 44-48) as disclosed by Eastvold et al. This would have been obvious because the manipulation method of Cawley allows for fast processing of data in a fault management environment (column 9 lines 21-22).

As in claim 10, Eastvold et al. teaches the limitations of claim 1, including a peripheral safety-related unit. However, Eastvold et al. fails to teach agreement to a data output from a unit is prevented by the overwriting of the data. Cawley teaches data output from a unit is prevented by the overwriting of data (column 9 lines 4-21, where faulty data is discarded when it reaches its destination [prevention of further output at the destination unit] and the correct copy will take its place [overwriting]. Because the units are in a ring network, it is implied that the correct copy will then be passed on to a following node, preventing further output of corrupt data.).

It would have been obvious to a person skilled in the art at the time the invention was made to have included prevention of corrupt output and overwriting of data as taught by Cawley in the invention as disclosed by Eastvold et al. This would have been obvious because the

manipulation method of Cawley allows for fast processing of data in a fault management environment (column 9 lines 21-22).

As in claim 11, Eastvold et al. teaches the limitations of claim 1, including checking logic (present in DTU 12) receiving information from the peripheral monitoring unit (master DTU 34). However, Eastvold et al. fails to teach the checking logic receives from the peripheral monitoring unit an information item which prevents a faulty output. Cawley teaches of an information item preventing faulty output (column 8 lines 44-49 and column 9 lines 18-21, where the appending of a check value or CRC is interpreted as an “information item” and the “prevention” is accomplished by the discarding of packets).

It would have been obvious to a person skilled in the art at the time the invention was made to have included an information item as disclosed by Cawley in order to prevent faulty output in the system of Eastvold et al. This would have been obvious because the manipulation method of Cawley allows for fast processing of data in a fault management environment (column 9 lines 21-22).

\* \* \*

14. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eastvold et al. in view of Dawson, further in view of Cawley.

As in claim 24, the combined invention of Eastvold et al. and Dawson teaches of checking logic (present in DTU 12) and a peripheral monitoring unit (master DTU 34). However, the combined invention of Eastvold et al. and Dawson fails to teach the checking logic receives information from the peripheral monitoring unit in order to prevent a faulty output. Cawley teaches of receiving information to prevent faulty output (column 8 lines 44-49 and column 9 lines 18-21, where the appending of a check value or CRC is interpreted as an "information item" and the "prevention" is accomplished by the discarding of packets).

It would have been obvious to a person skilled in the art at the time the invention was made to have included information as disclosed by Cawley in order to prevent faulty output in the system of the combined invention of Eastvold et al. and Dawson. This would have been obvious because the manipulation method of Cawley allows for fast processing of data in a fault management environment (column 9 lines 21-22).

### *Conclusion*

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

Art Unit: 2114

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Contino whose telephone number is (571) 272-3657. The examiner can normally be reached on Monday-Friday 7:30 am - 5:00 pm, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3657.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFC  
July 11, 2005

Bryce P. Bongo  
Bryce P. Bongo  
Primary Examiner  
A02114